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# LAYER 3 SWITCHING LOGIC ARCHITECTURE IN AN INTEGRATED NETWORK SWITCH

## ABSTRACT OF THE DISCLOSURE

5 A network switch, configured for performing layer 2 and layer 3 switching in an Ethernet (IEEE 802.3) network without blocking of incoming data packets, includes a switching module for performing layer 2 and layer 3 (specifically Internet Protocol) switching operations, and a plurality of network switch ports, each configured for connecting the network switch to a corresponding subnetwork. The switching module includes address tables for storing address information (e.g., layer 2 and layer 3 address and switching information). The network switching module is configured for performing prescribed layer 3 switching that enables transfer of data packets between subnetworks, bypassing a router that normally would need to manage Internet protocol switching between subnetworks of the network. Hence, the network switch performs Internet Protocol switching for intranetwork (i.e., inter-subnetwork) traffic, improving efficiency of the router by enabling the router resources to support more subnetworks.

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